

**Meeting of the Central Valley Flood Protection Board  
July 23, 2010**

**Staff Report – Encroachment Permit**

**Standard Pacific Homes  
Solano County**

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**1.0 – ITEM**

Consider approval of Permit No. 18591 (Attachment B)

**2.0 – APPLICANT**

Standard Pacific Homes

**3.0 – LOCATION**

The project is located in Fairfield, south of Interstate 80 and north of State Highway 12. (Ledge wood Creek, Solano County, see Attachment C)

**4.0 – DESCRIPTION**

The applicant proposes to excavate approximately 740 linear feet of sediment (54 cubic yards) from the channel, place approximately 5,889-linear-feet of fill material (0.53-acre), to excavate approximately 1,864-linear-feet of upland bank, 3 to 6-inches-deep, approximately 10-feet-wide (6,648 cubic yards), plant riparian vegetation, place approximately 335-square-feet of rock revetment (45 CY's), and construct a new diversion structure with a weir within the channel of Ledge wood Creek.

**5.0 – PROJECT ANALYSIS**

The applicant, Standard Pacific Homes, (SPH) is proposing to increase wetland acreage adjacent to the Main Stem of Ledge wood Creek, in Fairfield, California, as part of mitigation for the Rancho Solano Oaks Project (also known as Rancho Solano III). Ledge wood Creek is part of the Army Corps of Engineers Fairfield Vicinity Streams Unit in Solano County, CA.

The proposed mitigation is to create a floodplain terrace adjacent to the flood control channel at selected opportune locations along Segments 1, 2 and 3 of this Main Stem. The new floodplain benches are proposed to be created approximately 3 to 6 inches above the ordinary high water mark of the existing flood control channel. They are proposed to be backsloped away from the channel to increase inundation over the newly created floodplain. The new proposed benches will increase flood storage capacity along this section of Ledgeewood Creek, and help create wetlands where uplands now occur.

In addition, SPH also proposes to restore flows to 2,588 linear feet of the historic channel alignment of Ledgeewood Creek. Presently this historic channel sits higher in elevation and parallels the constructed existing flood control channel. Because an existing diversion structure does not function properly, the historic channel does not receive sufficient flow velocity or volume from the flood control channel to keep it free of sediment. Therefore SPH proposes to: (1) remove this accumulated sediment prior to restoring flows to this channel, and (2) reconstruct the failed diversion structure to properly divert flows into the historic Ledgeewood Creek channel alignment.

### **5.1 – Hydraulic Analysis**

SPH's hydraulic consultant, ENGEO, performed HEC-RAS hydraulic modeling for the proposed project. The 2-year and 100-year flows for both the flood and historic channels were based on data from FEMA Solano County Flood Insurance Study, September 15, 1993. The Ledgeewood Creek flood control channel was modeled with a 2-year flow of 890 cfs and 100-year flow of 3,080 cfs. The historic channel was modeled with a 2-year flow of 185 cfs and 100-year flow of 1400 cfs.

Steady flow water surface profiles were calculated along the channel reaches using the HEC-RAS computer model. Because the flood control and historic channels parallel each other, Segments 2 and 3 are modeled as if water does not overtop the berm separating the two creek systems since HEC-RAS cannot model a braided creek system consisting of two streams with different lengths. This limitation in the HEC-RAS program was considered in the modeled flow results.

The proposed project's effects on the local design flood water surface elevation (WSE) vary depending on the design flow. For the historic channel under 2-year flows, the local WSE's increase and decrease within a range of +0.01 to -1.70 feet over 19 river station (RS) locations. For the flood control channel under 2-year flows, the local WSE's increase and decrease within a range of +0.05 to -0.77 feet over 21 RS locations. For the historic channel under 100-year flows, the local WSE's all decrease or stay the same within a range of 0.00 to -1.70 feet over 19 RS locations. For the flood control

channel under 100-year flows, the local WSE's decrease or stay the same within a range of 0.00 to -0.44 feet over 21 RS locations. The 100-year results also indicate the 100-year recurrence interval flood flows will be contained within the top of bank after the proposed project is implemented.

As part of the project's proposed hydraulic work, the existing Woolner Avenue bridge/diversion structure is to be repaired with a positive flowing shotcrete channel. This proposed new diversion structure will have 2-foot wide hydraulic section and the invert is to be initially set approximately 2.5 feet below the Ledgewood Creek mean WSE upstream of Woolner Avenue. Flashboards are initially proposed to form an adjustable weir at the head of this shotcrete channel to increase historic channel flow velocities and thus prevent sedimentation blockage at this structure. Through the mitigation monitoring plan, SPH will to monitor post-project flows over 4 to 5 rainfall years to determine an appropriate permanent weir height to be set with a new concrete structure in the future.

The hydraulic report concludes that with the proposed project, the flood capacity of Ledgewood Creek within this Main Stem reach will increase while base flow conditions will be restored to original design conditions for the historic channel.

## **5.2 – Geotechnical Analysis**

The proposed shotcrete channel and temporary weir work on the existing diversion structure will not adversely affect the geotechnical integrity of the overall structure. The proposed improvements will restore the original design intent of the diversion structure, thus making it function as originally conceived instead of not properly working today.

The soil for the entire reach of the Main Stem of Ledgewood Creek is Silty Clay Loam as established by the Army Corps of Engineers and identified in the Technical Basis of Design Report for Ledgewood Creek.

## **5.3 – Additional Staff Analysis**

As part of the overall proposed project, the applicant proposes to increase wetland acreage adjacent to the Main Stem of Ledgewood Creek to help mitigate the Rancho Solano Oaks Project impacts. However, the only south bank of Segment One will be widened to accommodate the riparian plantings proposed along the Main Stem of Ledgewood Creek to establish new wetlands. No additional riparian plantings are proposed along Segments Two and Three of Ledgewood Creek since there is an existing well established riparian corridor along these top-of-banks. Only overbank

floodplain bench wetland areas are proposed to be constructed along these two segments of LedgeWood Creek. These new floodplain terraces will promote the growth of herbaceous wetland vegetation which is not viewed as disruptive to the conveyance of flood level flows as upland vegetation.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not yet been received for this application. Upon receipt of a favorable letter and review by Board staff it will be incorporated into the permit as Exhibit A.
- As the local maintaining agency for LedgeWood Creek, the City of Fairfield has endorsed this application and their November 9, 2009 letter will be incorporated into the permit as Exhibit B.

## **7.0 – PROPOSED CEQA FINDINGS**

Board staff has prepared CEQA findings (see Attachment D) for this project. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent.

## **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

*The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.*

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

*The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.*

3. Effects of the decision on the entire State Plan of Flood Control:

*The proposed project improves the State Plan of Flood Control as it increases the flood flow capacity within the Main Stem of Ledgewood Creek while base flow conditions will be restored to original design conditions for the historic channel.*

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

*Future events may increase flows in Ledgewood Creek which in turn would increase the flood risk for the project.*

## **9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board adopt the CEQA findings, approve the permit conditioned upon receipt of a favorable U.S. Army Corps of Engineers comment letter, and direct staff to file a Notice of Determination with the State Clearinghouse.

## **10.0 – LIST OF ATTACHMENTS**

- A. Resolution (not applicable)
- B. Draft Permit
- C. Location Maps and Photos
- D. CEQA Findings

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**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18591 BD**

**This Permit is issued to:**

Standard Pacific Homes  
3825 Hopyard Road, Suite 195  
Pleasanton, California 94588

To excavate approximately 740 linear feet of sediment (54 Cubic Yards) from the channel, place approximately 5,889-linear-feet of fill material (0.53-acre), to excavate approximately 1,864-linear-feet of upland bank, 3 to 6-inches-deep, approximately 10-feet-wide (6,648 cubic yards), plant riparian vegetation, place approximately 335-square-feet of rock revetment (45 CY's), and construct a new diversion structure with a weir within the channel of Ledge wood Creek. The project is located in Fairfield, south of I-80 (Section 27, T5N, R2W, MDB&M, Ledge wood Creek, Solano County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to

change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

### **SPECIAL CONDITIONS FOR PERMIT NO. 18591 BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** The Central Valley Flood Protection Board and Department of Water Resources and the City of Fairfield shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

**FIFTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith.

**SIXTEEN:** No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

**SEVENTEEN:** The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

**EIGHTEEN:** No material stockpiles, temporary buildings, or equipment shall remain within Ledge wood Creek during the flood season from November 1st to April 15th.

**NINETEEN:** Cleared trees and brush (or prunings therefrom) shall be completely burned or removed from Ledge wood Creek, and downed trees or brush shall not remain in Ledge wood Creek during the



flood season from November 1st to April 15th.

TWENTY: The landscaping, appurtenances, and maintenance practices shall conform to standards contained in Section 131 of the Central Valley Flood Protection Board's Regulations.

TWENTY-ONE: The permittee is responsible for the repair of any damage to the floodway resulting from felled trees following each high water occurrence.

TWENTY-TWO: The permittee shall operate and maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of City of Fairfield, Department of Water Resources, or any other agency responsible for maintenance. Maintenance may include actions to preserve the integrity of the flood control system under emergency conditions. These actions will be taken at the sole expense of the permittee.

TWENTY-THREE: The ground surface shall be kept clear of fallen trees, branches, and debris.

TWENTY-FOUR: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board, Department of Water Resources, or local maintaining agency. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.

TWENTY-FIVE: After each period of high water, debris that accumulates at the site shall be completely removed from the floodway.

TWENTY-SIX: All trees shall be trimmed and maintained to provide 5 feet of vertical clearance above the ground surface.

TWENTY-SEVEN: No wild rose, grape, blackberries, or other bushy thickets shall be propagated or otherwise allowed to grow at this site. Permittee shall promptly remove such vegetation.

TWENTY-EIGHT: The overflow area and project site shall be restored to at least the same condition that existed prior to commencement of work.

TWENTY-NINE: No further tree planting or work, other than that covered by this application, shall be performed in the area without prior approval of the Central Valley Flood Protection Board.

THIRTY: Should the riparian plantings need to be removed, the applicant shall (a) have an acceptable mitigation site available, including property rights, and (b) fund the removal of the project and the plantings of the mitigation site

THIRTY-ONE: All excavated material shall be placed only within the area indicated on the approved plans and shall not exceed the elevation of the adjacent high ground.

THIRTY-TWO: The permittee will be required to mitigate any adverse hydraulic impacts resulting from the project as determined and as required by the Central Valley Flood Protection Board.

THIRTY-THREE: The permitted project shall not interfere with the operation and maintenance of the flood control project. If the project is determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify the project under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

THIRTY-FOUR: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

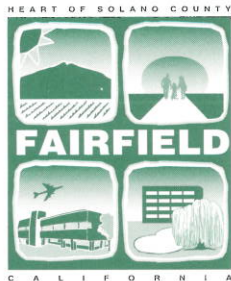
THIRTY-FIVE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

THIRTY-SIX: Upon completion of the project, the permittee shall submit as-built drawings to: Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite LL30, Sacramento, California 95821.

THIRTY-SEVEN: The permittee shall comply with all conditions set forth in the letter from the Army Corps of Engineers dated XXXX XX, 2010 which is attached to this permit as Exhibit A and is incorporated by reference.

**Placeholder for Permit Exhibit A; Comment Letter from Army  
Corps of Engineers for Permit Application No. 18591 BD.**

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# CITY OF FAIRFIELD

Founded 1856

Incorporated December 12, 1903

Exhibit C

## Department of Public Works

### COUNCIL

Mayor  
Harry T. Price  
707.428.7395

Vice-Mayor  
John Mraz  
707.429.6298

Councilmembers  
707.429.6298

Chuck Timm  
Catherine Moy  
Rick Vaccaro

...

City Manager  
Sean Quinn  
707.428.7400

...

City Attorney  
Greg Stepanicich  
707.428.7419

...

City Clerk  
Arletta Cortright  
707.428.7384

...

City Treasurer  
Oscar G. Reyes, Jr.  
707.428.7496

### DEPARTMENTS

Community Development  
707.428.7461

...

Community Resources  
707.428.7465

...

Finance  
707.428.7496

...

Fire  
707.428.7375

...

Human Resources  
707.428.7394

...

Police  
707.428.7551

...

Public Works  
707.428.7485

November 9, 2009

Department of Water Resources  
Central Valley Flood Protection Board  
P.O. Box 942836  
Sacramento, CA 95821

Subject: Encroachment Permit Application

To Whom It May Concern:

As the agency responsible for the maintenance of Ledgewood Creek within our corporate limits, the City of Fairfield Public Works Department hereby endorses the application being submitted to permit the increased wetland acreage in the segment of the Creek from Auto Mall Parkway to State Highway 12. As the Director of Public Works, I oversee the maintenance activities of all of the creeks within the corporate limits of the City of Fairfield, which maintenance typically includes, but is not limited to removing low tree limbs, high weed mowing in the overbank areas, limited spraying of herbicides at the creek's edge and along the maintenance roads, and removal of overgrown blackberry bushes and tulles. Maintenance activities occur on average once every year. Please accept this in lieu of trustee signatures under item 4 of your permit form.

If any further information is required, or I can be of any further assistance, please do not hesitate to contact me at (707) 428-7493 or at [gcortright@ci.fairfield.ca.us](mailto:gcortright@ci.fairfield.ca.us).

Sincerely,

GENE S. CORTRIGHT  
Public Works Director

c: Peter Wright, Engineering  
Michael Gray, Operations



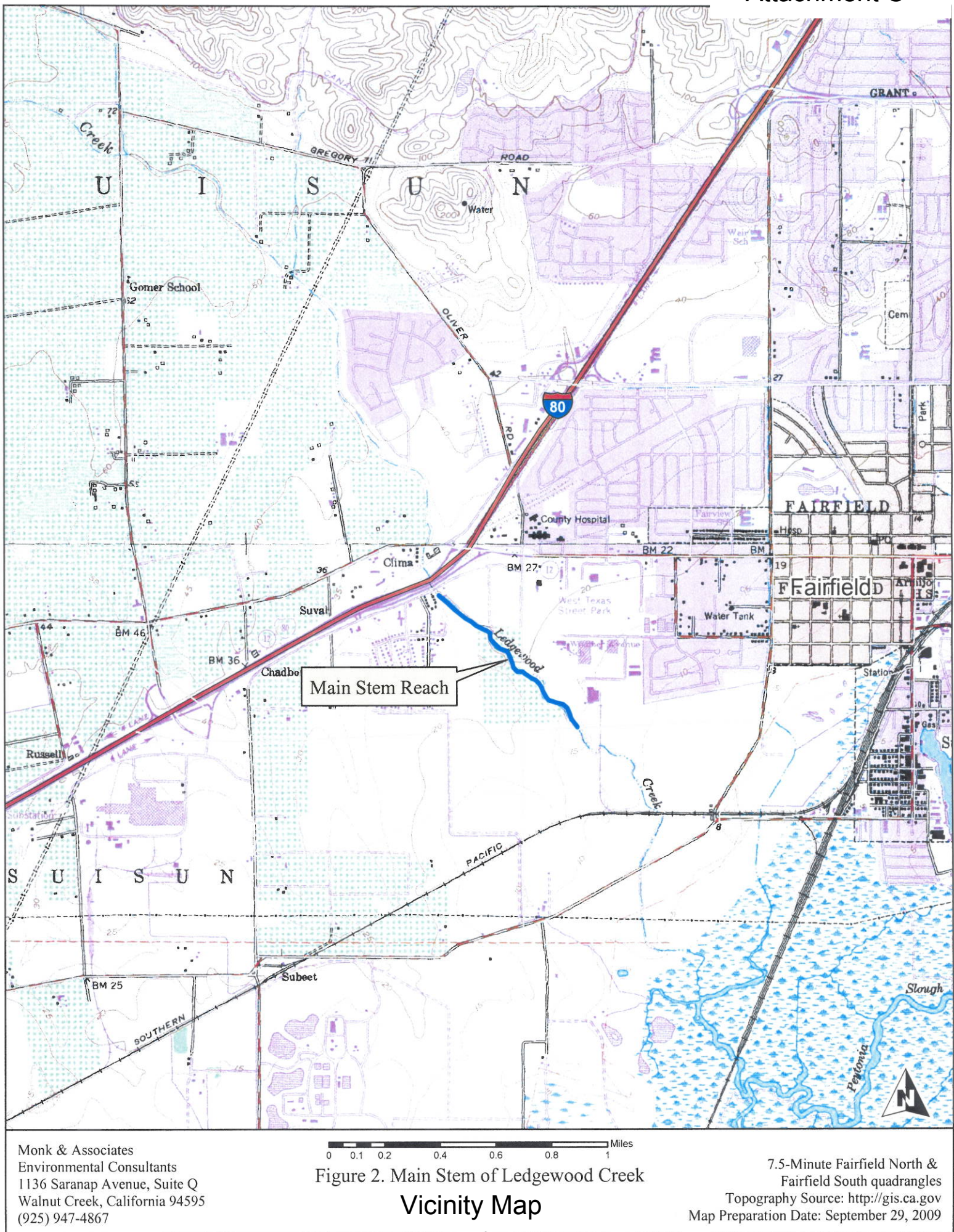
Figure 1. Main Stem of LedgeWood Creek

## Regional Map

Monk & Associates  
Environmental Consultants  
1136 Saranap Avenue, Suite Q  
Walnut Creek, California 94595  
(925) 947-4867

County: Solano  
Map Preparation Date: September 29, 2009

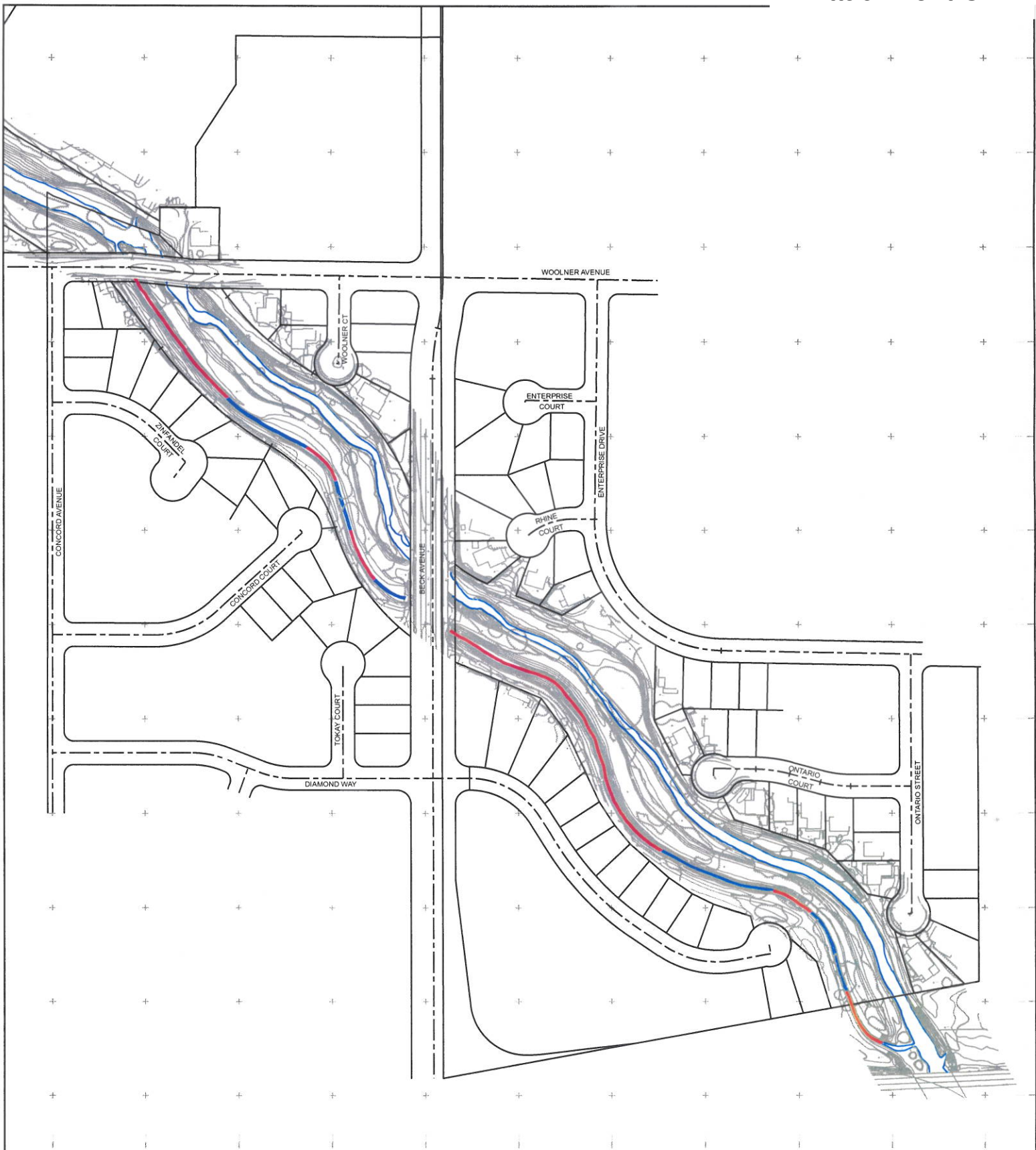












Detailed Location Map



0 100 200 400 600 800 1,000 Feet

Areas to be Excavated

Figure 4. Proposed Sediment Removal  
Along Historic Channel of the Main Stem Reach  
Rancho Solano, Solano County, California

Monk & Associates  
Environmental Consultants  
1136 Saranap Avenue, Suite Q  
Walnut Creek, California 94595  
(925) 947-4867

Map Preparation Date: April 7, 2009  
Map Revision Date: April 16, 2009  
Source: ENGEO





Attachment C

EXPLANATION



AREA OF PROPOSED OVERBANK WETLANDS

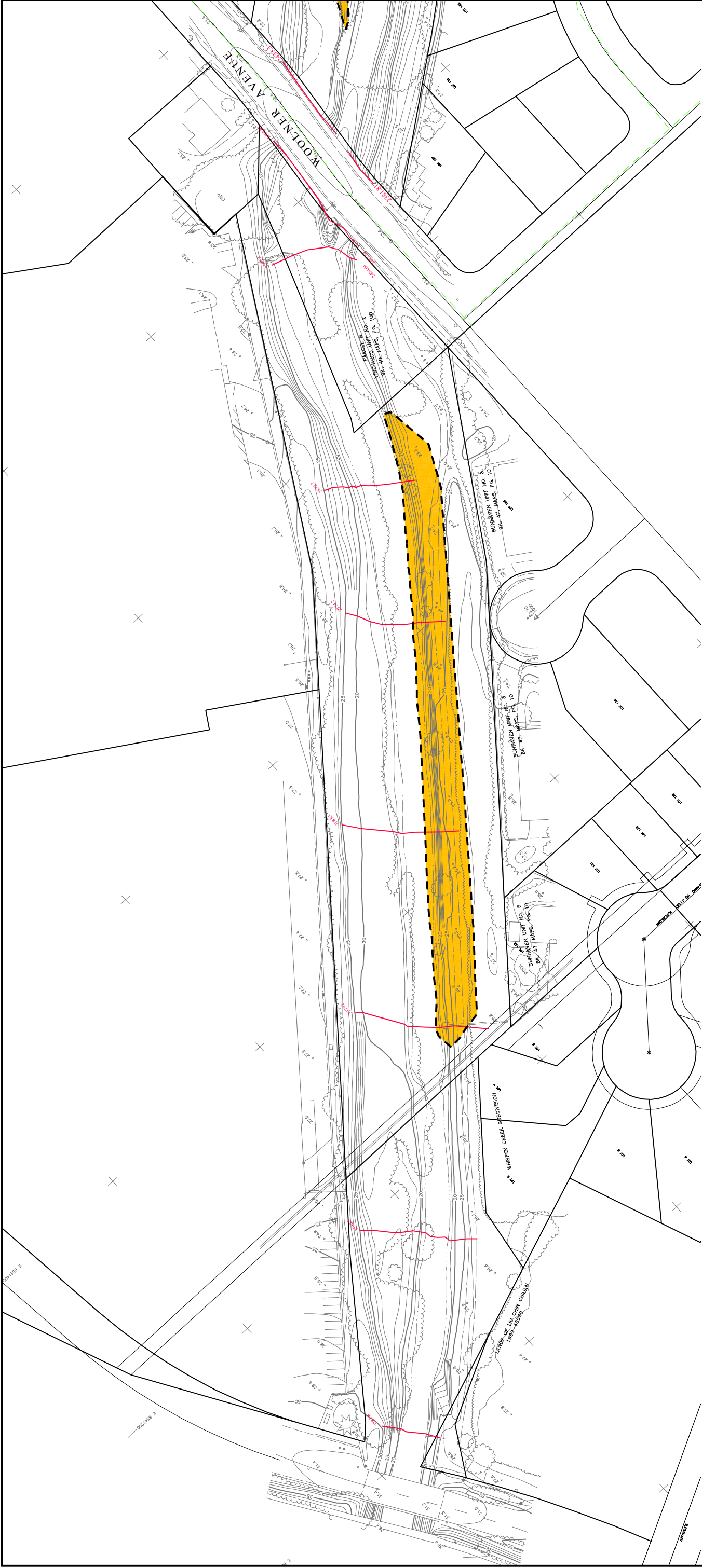


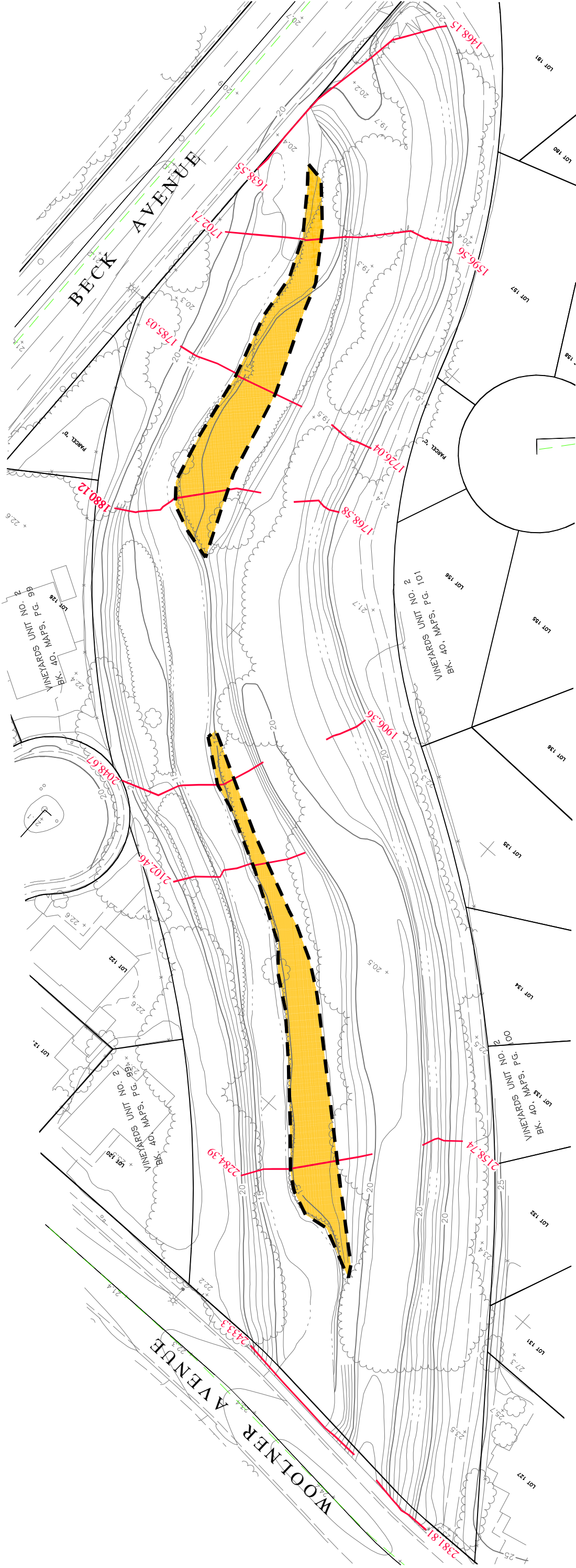
BASE MAP SOURCE: U.S.G.S.

SITE PLAN MAIN STEM LEDGEWOOD CREEK SOLANO COUNTY, CALIFORNIA	PROJECT NO: 4568.110.006	FIGURE
	DATE: MAY 2010	1
	DRAWN BY: PC	CHECKED BY: JB










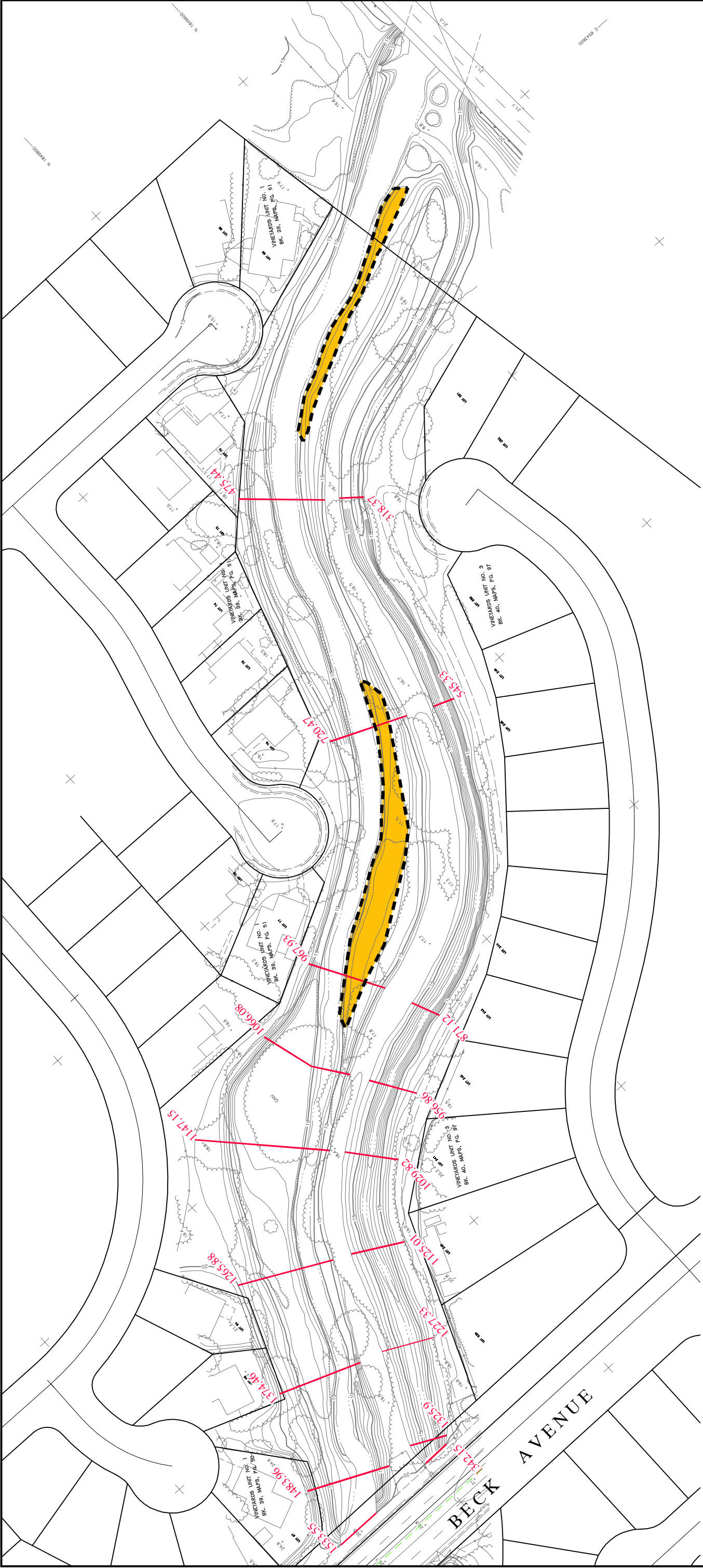
EXPLANATION

- 1596.56 — APPROXIMATE LOCATION OF HEC-RAS STATIONS
- AREA OF PROPOSED OVERBANK WETLANDS

BASE MAP SOURCE: MACKAY AND SOMPS

	HEC-RAS WORK MAP		FIGURE NO.	3
	MAIN STEM LEDGEWOOD CREEK		PROJECT NO.:	4568.110.006
	SOLANO COUNTY, CALIFORNIA		DATE:	MAY 2010
		DRAWN BY:	PC	CHECKED BY: JB





EXPLANATION

- 1596.56 APPROXIMATE LOCATION OF HEC-RAS STATIONS
- AREA OF PROPOSED OVERBANK WETLANDS



BASE MAP SOURCE: MACKAY AND SOMPS

HEC-RAS WORK MAP			FIGURE NO.	4
MAIN STEM LEDGEWOOD CREEK			PROJECT NO.	4568.110.006
SOLANO COUNTY, CALIFORNIA			DATE	MAY 2010
			DRAWN BY	PC
			CHECKED BY	JB

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**ENCROACHMENT PERMIT APPLICATION NO.: 18591**

**PROPOSED CEQA FINDINGS:**

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Initial Study/Mitigated Negative Declaration (IS/MND, October 2000), Mitigation Reporting Plan, and the City of Fairfield Planning Commission Resolution 2000-40 for the Rancho Solano Phase 3 Project prepared by the lead agency, the City of Fairfield.

These documents, including the project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at:

<http://www.cvfpb.ca.gov/meetings/2010/7-22-23-2010agenda.cfm>

under a link for this agenda item, Number 7J.

The City of Fairfield determined that the project would not have a significant effect on the environment and adopted the Mitigated Negative Declaration at the City of Fairfield Planning Commission Meeting on January 10, 2001. Subsequently, the City of Fairfield filed a Notice of Determination with the Solano County Clerk on January 12, 2001.

Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's Mitigation Reporting Plan and address impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, hydrology and water quality, and hazards. The description of the mitigation measures are further described in the adopted Mitigation Reporting Plan.